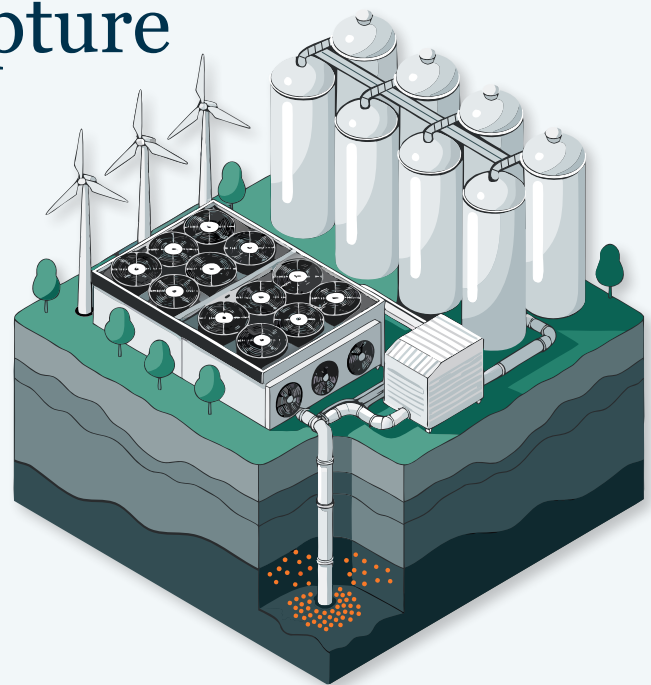


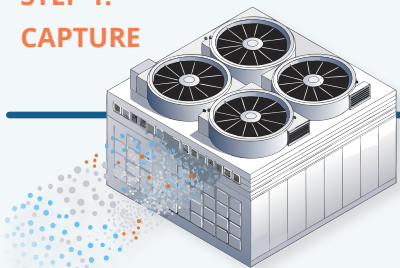
Direct Air Carbon Capture and Storage (DACCS)

WHAT IS DIRECT AIR CARBON CAPTURE AND STORAGE (DACCS)?

DACCS is a technology that extracts CO₂ directly from the air, then permanently stores it deep underground in porous rock at depths of at least 800 metres, usually as supercritical CO₂. Over time, the CO₂ may also dissolve and, in some geological formations, mineralize into rock.

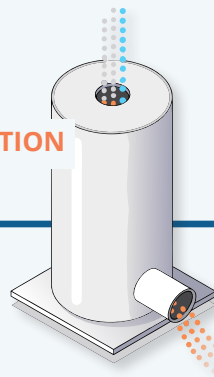


STEP 1: CAPTURE



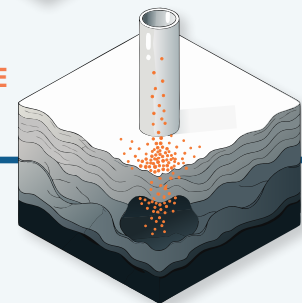
Large fans pull air into a capture unit

STEP 2: SEPARATION



CO₂ is separated from the air using chemical processes

STEP 3: STORAGE



CO₂ is compressed & injected deep underground into rock formations

AVERAGE PRICE

\$828

per tonne removed

PERMANENCE: HIGH

>10,000

years

REVERSAL RISK: VERY LOW

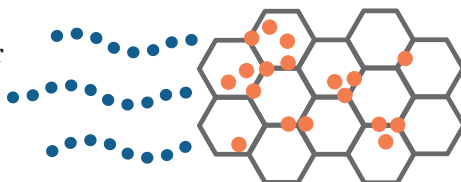
SCALABILITY: HIGH

(No land/water constraints)

How is the CO₂ captured?

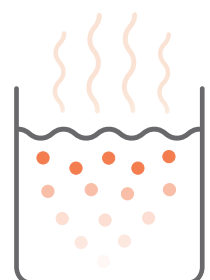
USING SOLID SORBENTS:

Solid materials physically or chemically adsorb CO₂ from the air, sticking the carbon onto their surfaces.



USING LIQUID SOLVENTS:

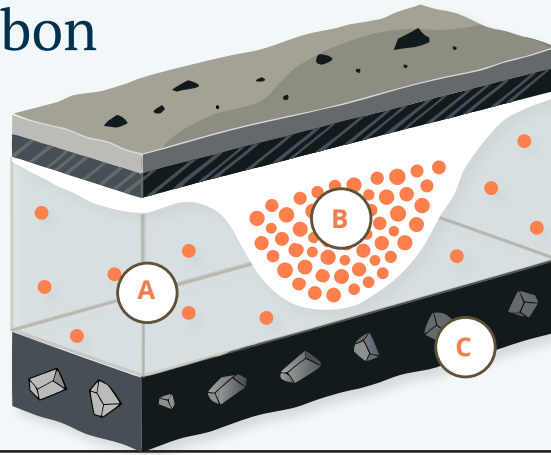
Liquid chemically reacts with CO₂ from the air. The solvent reacts with the CO₂ dissolving the carbon into the liquid.



Where is the carbon stored?

A. DEEP SALINE AQUIFERS:

Underground rock filled with salty water. Its tiny pores trap CO₂, and a solid rock cap seals it in place.



B. DEPLETED OIL & NATURAL GAS RESERVOIRS:

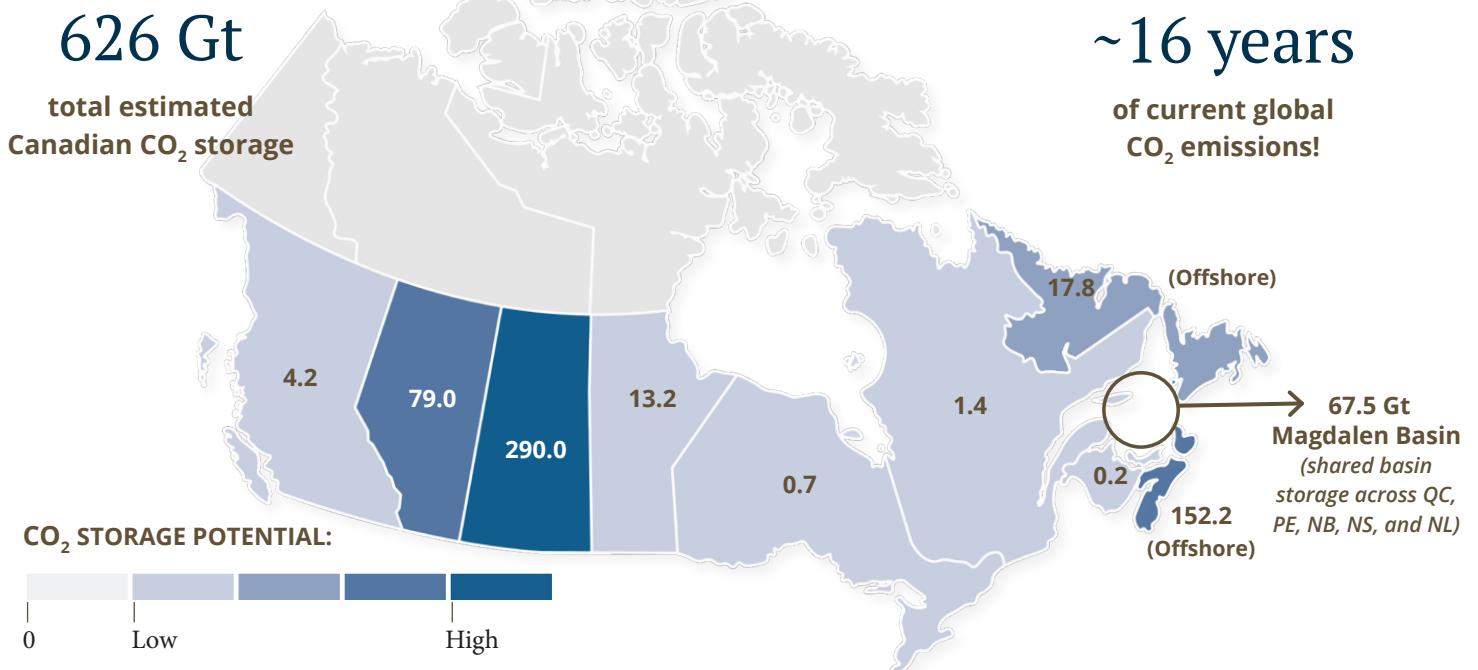
Underground rock formations that once held oil and gas. They already have the right conditions to trap CO₂.

C. BASALT FORMATIONS:

CO₂ mixed with water is injected into volcanic rock, where it reacts with minerals and turns to solid rock, permanently locked in place.

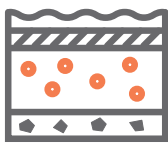
RISK: Public acceptance of underground storage. **MITIGATION:** Community engagement; transparent monitoring data.

CO₂ storage potential: saline aquifers across Canada (Gt)



Canadian opportunity:

Canada is among the best-positioned countries in the world to host large-scale DACCS. Three structural advantages align:



VAST GEOLOGICAL STORAGE

Around 626 Gt of CO₂ storage capacity, among the largest in the world.



ABUNDANT CLEAN ENERGY

Hydro, solar, wind and geothermal energy.



WORKFORCE & INFRASTRUCTURE

Decades of oil & gas experience mean a ready workforce & infrastructure already in place.